

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

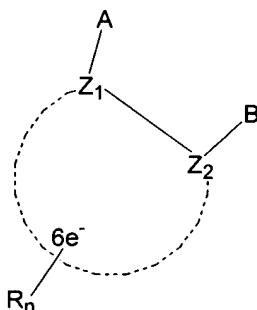
### **Listing of Claims:**

1 – 102. (canceled)

103. (previously presented) A method of increasing the vigor and/or the yield of an agronomic plant comprising treating the plant or its propagation material with a composition which comprises an effective amount of a fungicide which has no significant activity against fungal plant pathogens for such agronomic plant, wherein the plant or its propagation material possesses a transgenic event providing the plant with resistance to a herbicide and the treatment comprises foliar application of said herbicide.

104. (currently amended) The method according to claim 103, wherein the herbicide resistance is selected from the group consisting of resistance to glyphosate, glufosinate, imidazolinone herbicides, and sulfonylurea herbicides ~~glyphosate, imidazolinone and STS system.~~

105. (previously presented) The method according to claim 103, wherein the fungicide comprises a compound having the formula



wherein  $Z_1$  and  $Z_2$  are C or N and are part of an aromatic ring selected from benzene, pyridine, thiophene, furan, pyrrole, pyrazole, thiazole, benzothiophene and isothiazole;

$A$  is selected from  $--C(X)\text{-amine}$ ,  $--C(O)\text{--SR}_3$ ,  $--NH\text{--}C(X)R_4$ , and  $--C(=NR_3)\text{--}XR_7$ ;

B is  $--W_m--Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $R_4$  ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p H_{(2-p)}--$ ; or when Q is C, W is selected from  $--C(R_3)_p H_{(2-p)}--$ ,  $--N(R_3)_m H_{(1-m)}--$ ,  $--S(O)_p--$ , and  $--O--$ ;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $C_1$ - $C_4$  alkyl, alkenyl, alkynyl,  $C_3$ - $C_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $C_1$ - $C_4$  alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro,  $C_1$ - $C_4$  alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d)  $C_1$ - $C_4$  alkoxy, alkenoxy, alkynoxy,  $C_3$ - $C_6$  cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each  $R_2$  is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with  $R_4$  or halogen; and wherein, when Q is C,  $R_2$  may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two  $R_2$  groups may be combined to form a cyclo group with Q;

$R_3$  is  $C_1$ - $C_4$  alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

106. (previously presented) The method according to claim 103, wherein the fungicide is 4,5-dimethyl-*N*-2-propenyl-2-(trimethylsilyl)-3-thiophenecarboxamide.

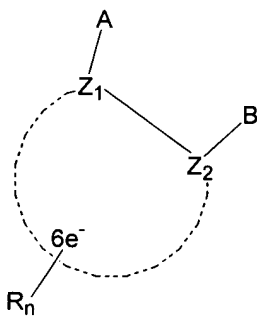
107. (canceled)

108. (currently amended) The method according to claim 105, wherein the plant or its propagation material possesses a transgenic event providing the plant with resistance to a herbicide selected from the group consisting of glyphosate, glufosinate, imidazolinone herbicides, and sulfonylurea herbicides ~~glyfosinate, imidazilinone and STS system~~, and wherein the treatment comprises treating the seed of the plant with an inoculant selected from the group consisting of *Azospirillum spp.*, *Rhizobium spp.*, *Bradyrhizobium spp.*, a mixture of *Rhizobium spp.* and *Bradyrhizobium spp.*, and a mixture of either *Rhizobium spp.*, or *Bradyrhizobium spp.* with any other microorganisms, and further includes foliar treatment of the plant with the fungicide, and foliar application of said herbicide.

109. (previously presented) The method according to claim 103, wherein the step of treating the plant or its propagation material comprises applying the fungicide to the foliage of the plant in combination with said herbicide.

110. (previously presented) The method according to claim 109, wherein the herbicide is glyphosate.

111. (previously presented) The method according to claim 109, wherein the fungicide comprises a compound having the formula



wherein  $Z_1$  and  $Z_2$  are C or N and are part of an aromatic ring selected from benzene, pyridine, thiophene, furan, pyrrole, pyrazole, thiazole, benzothiophene and isothiazole;

A is selected from  $--C(X)\text{-amine}$ ,  $--C(O)\text{---}SR_3$ ,  $--NH\text{---}C(X)R_4$ , and  $--C(=NR_3)\text{---}XR_7$ ;

B is  $--W_m\text{---}Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $R_4$ ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p\text{---}H_{(2-p)}\text{---}$ ; or when Q is C, W is selected from  $--C(R_3)_p\text{---}H_{(2-p)}\text{---}$ ,  $--N(R_3)_m\text{---}H_{(1-m)}\text{---}$ ,  $--S(O)_p\text{---}$ , and  $--O\text{---}$ ;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $C_1\text{--}C_4$  alkyl, alkenyl, alkynyl,  $C_3\text{--}C_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $C_1\text{--}C_4$  alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro,  $C_1\text{--}C_4$  alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d)  $C_1\text{--}C_4$  alkoxy, alkenoxy, alkynoxy,  $C_3\text{--}C_6$  cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each  $R_2$  is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with  $R_4$  or halogen; and wherein, when Q is C,  $R_2$  may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two  $R_2$  groups may be combined to form a cyclo group with Q;

$R_3$  is  $C_1$ - $C_4$  alkyl;

$R_4$  is  $C_1$ - $C_4$  alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;

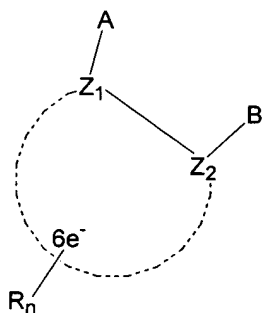
$R_7$  is  $C_1$ - $C_4$  alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or  $R_4$ ; or an agronomic salt thereof.

112. (previously presented) The method according to claim 109, wherein the fungicide is 4,5-dimethyl-*N*-2-propenyl-2-(trimethylsilyl)-3-thiophenecarboxamide.

113. (previously presented) A method of increasing the vigor and/or the yield of an agronomic plant except for wheat comprising treating an agronomic plant or its propagation material except for wheat with a composition comprising an effective amount of an active agent that has activity against *Gaeumannomyces graminis*, wherein the plant or its propagation material possesses a transgenic event providing the plant with resistance to a herbicide and the treatment comprises foliar application of said herbicide.

114. (previously presented) The method according to claim 113, wherein the *Gaeumannomyces graminis* is of the variety *tritici*.

115. (previously presented) The method according to claim 113, wherein the active agent comprises a compound having the formula



wherein  $Z_1$  and  $Z_2$  are C or N and are part of an aromatic ring selected from benzene, pyridine, thiophene, furan, pyrrole, pyrazole, thiazole, benzothiophene and isothiazole;

A is selected from  $--C(X)\text{-amine}$ ,  $--C(O)\text{---}SR_3$ ,  $--NH\text{---}C(X)R_4$ , and  $--C(=NR_3)\text{---}XR_7$ ;

B is  $--W_m\text{---}Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $R_4$ ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p\text{H}_{(2-p)}\text{---}$ ; or when Q is C, W is selected from  $--C(R_3)_p\text{H}_{(2-p)}\text{---}$ ,  $--N(R_3)_m\text{H}_{(1-m)}\text{---}$ ,  $--S(O)_p\text{---}$ , and  $--O\text{---}$ ;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $C_1\text{--}C_4$  alkyl, alkenyl, alkynyl,  $C_3\text{--}C_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $C_1\text{--}C_4$  alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro,  $C_1\text{--}C_4$  alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d)  $C_1\text{--}C_4$  alkoxy, alkenoxy, alkynoxy,  $C_3\text{--}C_6$  cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each  $R_2$  is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl

and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl; and

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub> ;  
or an agronomic salt thereof.

116. (previously presented)      The method according to claim 113, wherein the active agent is 4,5-dimethyl-*N*-2-propenyl-2-(trimethylsilyl)-3-thiophenecarboxamide.

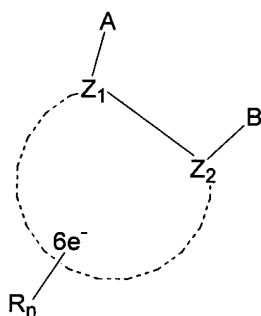
117. (previously presented)      The method according to claim 113, where the treatment of the plant or its propagation material comprises treatment of a seed with an inoculant comprising *Azospirillum spp.*, or *Rhizobium spp.*, or *Bradyrhizobium spp.*, or a mixture of *Rhizobium spp.* and *Bradyrhizobium spp.*, or a mixture of either *Rhizobium spp.*, or *Bradyrhizobium spp.* with any other microorganisms.

118. (currently amended)      The method according to claim 113, wherein the herbicide is selected from the group consisting of glyphosate, glufosinate, imidazolinone herbicides, and sulfonylurea herbicides ~~glyphosate, imidazolinone and STS system.~~

119. (canceled)

120. (previously presented)      A method of increasing the vigor and/or the yield of an agronomic plant except for wheat comprising treating an agronomic plant or its propagation material except for wheat with a composition comprising an effective amount of an active agent that has activity against *Gaeumannomyces graminis*, and treating the seed of the plant with an inoculant selected from the group consisting of *Azospirillum spp.*, *Rhizobium spp.*, *Bradyrhizobium spp.*, a mixture of *Rhizobium spp.* and *Bradyrhizobium spp.*, and a mixture of either *Rhizobium spp.*, or *Bradyrhizobium spp.* with any other microorganisms, where the plant or its propagation material has a transgenic event that provides resistance to glyphosate and the treatment further includes foliar treatment of the plant with glyphosate.

121. (previously presented)      The method according to claim 120, wherein the active agent comprises a compound having the formula



wherein  $Z_1$  and  $Z_2$  are C or N and are part of an aromatic ring selected from benzene, pyridine, thiophene, furan, pyrrole, pyrazole, thiazole, benzothiophene and isothiazole;

A is selected from  $--C(X)-\text{amine}$ ,  $--C(O)SR_3$ ,  $--NH--C(X)R_4$ , and  $--C(=NR_3)--XR_7$ ;

B is  $--W_m--Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $R_4$ ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p H_{(2-p)}--$ ; or when Q is C, W is selected from  $--C(R_3)_p H_{(2-p)}--$ ,  $--N(R_3)_m H_{(1-m)}--$ ,  $--S(O)_p--$ , and  $--O--$ ;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $C_1-C_4$  alkyl, alkenyl, alkynyl,  $C_3-C_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $C_1-C_4$  alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro,  $C_1-C_4$  alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;



d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

122. (previously presented) The method according to claim 120, wherein the active agent is 4,5-dimethyl-*N*-2-propenyl-2-(trimethylsilyl)-3-thiophenecarboxamide.

123 - 133. (canceled)

134. (previously presented) The method according to claim 105, wherein Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is thiophene;

A is selected from --C(X)-amine, --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub>;

B is --W<sub>m</sub>--Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub>;

Q is C, Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --, --N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub> --, --S(O)<sub>p</sub> --, and --O--;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino, and further when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; and further when Q is C, then two R<sub>2</sub> groups may be combined to form a cycloalkyl group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub> ;

or an agronomic salt thereof.

135. (previously presented) The method according to claim 105, wherein

Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is thiophene;

A is selected from --C(X)-amine, wherein the amine is substituted with a first and a second amine substituent or with an alkylaminocarbonyl and a hydrogen, --C(O)--SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)-XR<sub>7</sub> ;

the first amine substituent is selected from the group consisting of  $C_1 - C_{10}$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl,  $C_3 - C_6$  cycloalkyl and  $C_5 - C_6$  cycloalkylkenyl; phenyl optionally substituted with one or more  $C_1 - C_4$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl, haloalkyl, alkoxy and nitro;  $C_3 - C_6$  cycloalkyl,  $C_5 - C_6$  cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen;  $C_1 - C_6$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxycarbonyl, and dialkylphosphonyl;

B is  $--W_m--Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $R_4$ ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p H_{(2-p)}--$ ; or when Q is C, W is selected from  $--C(R_3)_p H_{(2-p)}--$ ,  $--N(R_3)_m H_{(1-m)}--$ ,  $--S(O)_p--$ , and  $--O--$ ;

X is O or S;

n is 2;

m is 0 or 1;

p is 0, 1, or 2;

wherein two R groups are combined to form a nonheterocyclic ring fused with the thiophene ring, which is not a benzothiophene other than a tetrahydrobenzothiophene, said two R groups being selected from the group consisting of  $C_1 - C_4$  alkyl, alkenyl,  $C_3 - C_6$  cycloalkyl and cycloalkenyl, each optionally substituted with hydroxy, thio, phenyl,  $C_1 - C_4$  alkoxy, alkylthio, alkylsulfinyl, or alkylsulfonyl;

each  $R_2$  is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with  $R_4$  or halogen; and wherein when Q is C,  $R_2$  may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; and further when Q is C, then two  $R_2$  groups may be combined to form a cycloalkyl group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>;  
or an agronomic salt thereof

136. (previously presented) The method according to claim 105, wherein  
Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is thiophene;

A is --C(X)-amine wherein the amine is an N-bonded heterocyclic compound  
chosen from the group consisting of morpholine, piperazine, piperidine, and pyrrolidine,  
each optionally substituted with C<sub>3</sub> - C<sub>6</sub> alkyl groups;

B is --W<sub>m</sub> --Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-  
phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is C or Si;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --, --  
N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub> --, --S(O)<sub>p</sub> --, and --O--;

X is O;

n is 2;

m is 0 or 1;

p is 0, 1, or 2;

wherein the two R groups are alkenyl groups and are combined to form a fused  
ring with the thiophene ring with is benzothiophene; wherein the alkenyl groups are  
optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>2</sub> -  
C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl,  
(alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or  
alkylsulfonyl;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl,  
cycloalkenyl, and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein  
when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and  
dialkylamino; or wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl; and

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;  
or an agronomic salt thereof

137. (previously presented) The method according to claim 105, wherein  $Z_1$  and  $Z_2$  are C and are part of a thiophene ring.

138. (previously presented) The method according to claim 137, wherein A is -C(O)-amine, wherein the amino radical is substituted with one or two groups selected from hydrogen; hydroxy; alkyl, alkenyl, and alkynyl, which may be straight or branched chain or cyclic; alkoxyalkyl; haloalkyl; hydroxyalkyl; alkylthio; alkylthioalkyl; alkylcarbonyl; alkoxy carbonyl; aminocarbonyl; alkylaminocarbonyl; cyanoalkyl; mono- or dialkylamino; phenyl, phenylalkyl or phenylalkenyl, each optionally substituted with one or more  $C_1 - C_4$  alkyl, alkoxy, haloalkyl,  $C_3 - C_6$  cycloalkyl, halo, or nitro groups; and  $C_1 - C_4$  alkyl or alkenyl substituted with pyrimidinyl, thienyl, or furanyl; and wherein the amino radical may be a N-bonded heterocycle selected from morpholine, piperazine, piperidine, pyrrole, pyrrolidine, imidazole, and triazoles, each optionally substituted with  $C_1 - C_6$  alkyl groups.

139. (previously presented) The method according to claim 138, wherein in  $-W_m$ , m is 0.

140. (previously presented) The method according to claim 139, wherein Q is Si.

141. (previously presented) The method according to claim 140, wherein each  $R_2$  is  $C_1 - C_4$  alkyl or haloalkyl.

142. (previously presented) The method according to claim 141, wherein each  $R_2$  is methyl.

143. (previously presented) The method according to claim 142, wherein A is alkylaminocarbonyl or dialkylaminocarbonyl.

144. (previously presented) The method according to claim 105, wherein  $Z_1$  and  $Z_2$  are C and are part of an aromatic ring which is benzothiophene; and A is selected from --C(X)-amine wherein the amine is an unsubstituted, monosubstituted or disubstituted nonheterocyclic amino radical, --C(O)--SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub> ;

B is  $-W_m - Q(R_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is C, Si, Ge, or Sn;

W is  $--C(R_3)_p H_{(2-p)}--$ ; or when Q is C, W is selected from  $--C(R_3)_p H_{(2-p)}--$ ,  $--N(R_3)_m H_{(1-m)}--$ ,  $--S(O)_p--$ , and  $--O--$ ;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $C_1$ - $C_4$  alkyl, alkenyl, alkynyl,  $C_3$ - $C_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $C_1$ - $C_4$  alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro,  $C_1$ - $C_4$  alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d)  $C_1$ - $C_4$  alkoxy, alkenoxy, alkynoxy,  $C_3$ - $C_6$  cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

each  $R_2$  is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with  $R_4$  or halogen; and wherein, when Q is C,  $R_2$  may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two  $R_2$  groups may be combined to form a cyclo group with Q which is 1-methylcyclopropyl, 1-methylcyclopentyl, or 1-methylcyclohexyl;

$R_3$  is  $C_1$ - $C_4$  alkyl;

$R_4$  is  $C_1$ - $C_4$  alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

$R_7$  is  $C_1$ - $C_4$  alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or  $R_4$ ; or an agronomic salt thereof

145. (previously presented) The method according to claim 105, wherein  $Z_1$  and  $Z_2$  are C and are part of an aromatic ring which is benzothiophene; and A is selected from --C(X)-amine wherein the amine is an unsubstituted, monosubstituted or disubstituted nonheterocyclic amino radical, --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub> ;

B is --W<sub>m</sub> --Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is C, Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --, --N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub> --, --S(O)<sub>p</sub> --, and --O--;

X is O or S;

n is 0, 1, 2, or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein,

when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q which is 1-methylcyclopropyl, 1-methylcyclopentyl, or 1-methylcyclohexyl;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

146. (previously presented) The method according to claim 105, wherein

Z<sub>1</sub> and Z<sub>2</sub> are C or N and are part of an aromatic ring which is furan; and

A is selected from --C(X)-amine wherein the amine is substituted with a first and a second amine substituent or with an alkylaminocarbonyl and a hydrogen, --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub> ;

the first amine substituent is selected from the group consisting of C<sub>1</sub> - C<sub>10</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl, a 5-membered heteroaryl, C<sub>3</sub> - C<sub>6</sub> cycloalkyl and C<sub>5</sub> - C<sub>6</sub> cycloalkylkenyl; phenyl optionally substituted with one or more C<sub>1</sub> - C<sub>4</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl, haloalkyl, alkoxy and nitro; C<sub>3</sub> - C<sub>6</sub> cycloalkyl, C<sub>5</sub> - C<sub>6</sub> cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen; C<sub>1</sub> - C<sub>6</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxycarbonyl, and dialkylphosphonyl;

B is --W<sub>m</sub> --Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is C, Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --, --N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub> --, --S(O)<sub>p</sub> --, and --O--;

X is O or S;



n is 0, 1, or 2;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q which is 1-methylcyclopropyl, 1-methylcyclopentyl, or 1-methylcyclohexyl;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof

147. (previously presented) The method according to claim 105, wherein Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is furan; and

A is selected from --C(X)-amine wherein the amine is substituted with a first and a second amine substituent or with an alkylaminocarbonyl and a hydrogen, --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub> ;

the first amine substituent is selected from the group consisting of C<sub>1</sub> - C<sub>10</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl, a 5-membered heteroaryl, C<sub>3</sub> - C<sub>6</sub> cycloalkyl and C<sub>5</sub> - C<sub>6</sub> cycloalkylkenyl; phenyl optionally substituted with one or more C<sub>1</sub> - C<sub>4</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl, haloalkyl, alkoxy and nitro; C<sub>3</sub> - C<sub>6</sub> cycloalkyl, C<sub>5</sub> - C<sub>6</sub> cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen; C<sub>1</sub> - C<sub>6</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxycarbonyl, and dialkylphosphonyl;

B is --W<sub>m</sub> --Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is C, Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --, --N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub> --, --S(O)<sub>p</sub> --, and --O--;

X is O or S;

n is 0, 1, or 2;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxy carbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

wherein two R groups may be combined to form a fused ring;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino;

wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q which is 1-methylcyclopropyl, 1-methylcyclopentyl, or 1-methylcyclohexyl;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

148. (previously presented) The method according to claim 105, wherein Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is furan; and

A is selected from --C(X)-amine wherein the amine is substituted with a first and a second amine substituent or with an alkylaminocarbonyl and a hydrogen, --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub> ;

the first amine substituent is selected from the group consisting of C<sub>1</sub> - C<sub>10</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl, a 5-membered heteroaryl, C<sub>3</sub> - C<sub>6</sub> cycloalkyl and C<sub>5</sub> - C<sub>6</sub> cycloalkylkenyl; phenyl optionally substituted with one or more C<sub>1</sub> - C<sub>4</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl,

haloalkyl, alkoxy and nitro; C<sub>3</sub> - C<sub>6</sub> cycloalkyl, C<sub>5</sub> - C<sub>6</sub> cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen; C<sub>1</sub> - C<sub>6</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxy carbonyl, and dialkylphosphonyl;

B is --W<sub>m</sub>--Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub>;

Q is C, Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub>--; or when Q is C, W is selected from --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub>--, --N(R<sub>3</sub>)<sub>m</sub> H<sub>(1-m)</sub>--, --S(O)<sub>p</sub>--, and --O--;

X is O or S;

n is 2;

m is 0 or 1;

p is 0, 1, or 2;

wherein the two R groups are combined to form a nonheterocyclic ring fused to said furan ring which is not benzofuran when A is --C(X)--amine, B is --W<sub>m</sub>(Q)--(R<sub>2</sub>)<sub>3</sub>, and Q is C or Si, said R groups being selected from the group consisting of C<sub>1</sub> - C<sub>4</sub> alkyl, alkenyl, C<sub>3</sub> - C<sub>6</sub> cycloalkyl and cycloalkenyl, each optionally substituted with hydroxy, thio, phenyl, C<sub>1</sub> - C<sub>4</sub> alkoxy, alkylthio, alkylsulfinyl, or alkylsulfonyl; and

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; wherein further when Q is C, then two R<sub>2</sub> groups may be combined to form a cyclo group with Q;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

149. (previously presented) The method according to claim 105, wherein Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is pyridine; and

A is selected from the group consisting of  $-\text{C}(\text{O})-\text{SR}_3$ ,  $-\text{NH}-\text{C}(\text{X})\text{R}_4$ , and  $-\text{C}(=\text{NR}_3)-\text{XR}_7$  and  $-\text{C}(\text{X})$ -amine wherein the amine is substituted with alkylaminocarbonyl and a hydrogen or wherein the amine has a first and a second amine substituent;

the first amine substituent is selected from the group consisting of  $\text{C}_1 - \text{C}_{10}$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl, a 5-membered heteroaryl,  $\text{C}_3 - \text{C}_6$  cycloalkyl and  $\text{C}_5 - \text{C}_6$  cycloalkylkenyl; phenyl optionally substituted with one or more  $\text{C}_1 - \text{C}_4$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl, haloalkyl, alkoxy and nitro;  $\text{C}_3 - \text{C}_6$  cycloalkyl,  $\text{C}_5 - \text{C}_6$  cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen;  $\text{C}_1 - \text{C}_6$  straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxycarbonyl, and dialkylphosphonyl;

B is  $-\text{W}_m - \text{Q}(\text{R}_2)_3$  or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or  $\text{R}_4$  ;

Q is C, Si, Ge, or Sn;

W is  $-\text{C}(\text{R}_3)_p \text{H}_{(2-p)} -$ ; or when Q is C, W is selected from  $-\text{C}(\text{R}_3)_p \text{H}_{(2-p)} -$ ,  $-\text{N}(\text{R}_3)_m \text{H}_{(1-m)} -$ ,  $-\text{S}(\text{O})_p -$ , and  $-\text{O}-$ ;

X is O or S;

n is 0, 1, or 2;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b)  $\text{C}_1 - \text{C}_4$  alkyl, alkenyl, alkynyl,  $\text{C}_3 - \text{C}_6$  cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl,  $\text{C}_1 - \text{C}_4$  alkoxy,

alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; or wherein two R<sub>2</sub> groups may be combined to form a cyclo group with Q which is 1-methylcyclopropyl, 1-methylcyclopentyl, or 1-methylcyclohexyl;

R<sub>3</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sub>4</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

R<sub>7</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or R<sub>4</sub>; or an agronomic salt thereof.

150. (previously presented) The method according to claim 105, wherein Z<sub>1</sub> and Z<sub>2</sub> are C and are part of an aromatic ring which is benzene; and

A is selected from the group consisting of --C(X)-amine wherein the amine is substituted with a first and a second amine substituent or with an alkylaminocarbonyl and a hydrogen; --C(O)—SR<sub>3</sub>, --NH--C(X)R<sub>4</sub>, and --C(=NR<sub>3</sub>)--XR<sub>7</sub>;

the first amine substituent is selected from the group consisting of C<sub>1</sub> - C<sub>10</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkoxy, alkylthio, nitrile, alkylsulfonate, haloalkylsulfonate, phenyl, C<sub>3</sub> - C<sub>6</sub> cycloalkyl and C<sub>5</sub> - C<sub>6</sub> cycloalkylkenyl; phenyl optionally substituted with one or more C<sub>1</sub> - C<sub>4</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof, cycloalkyl, cycloalkenyl, haloalkyl, alkoxy and nitro;

C<sub>3</sub> - C<sub>6</sub> cycloalkyl, C<sub>5</sub> - C<sub>6</sub> cycloalkenyl, alkoxy, alkenoxy, alkynoxy, dialkylamino, and alkylthio;

and the second amine substituent is selected from the group consisting of hydrogen; C<sub>1</sub> - C<sub>6</sub> straight or branched alkyl, alkenyl, or alkynyl groups or mixtures thereof optionally substituted with one or more halogen, hydroxy, alkylcarbonyl, haloalkylcarbonyl, alkoxycarbonyl, and dialkylphosphonyl;

B is --W<sub>m</sub>--Q(R<sub>2</sub>)<sub>3</sub> or selected from o-tolyl, 1-naphthyl, 2-naphthyl, and 9-phenanthryl, each optionally substituted with halogen or R<sub>4</sub> ;

Q is Si, Ge, or Sn;

W is --C(R<sub>3</sub>)<sub>p</sub> H<sub>(2-p)</sub> --;

X is O or S;

n is 0, 1, 2 or 3;

m is 0 or 1;

p is 0, 1, or 2;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub>-C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub>-C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo;

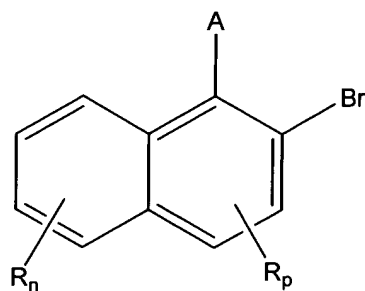
each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen;

$R_3$  is  $C_1$ - $C_4$  alkyl;

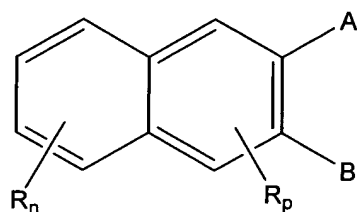
$R_4$  is  $C_1$ - $C_4$  alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino; and

$R_7$  is  $C_1$ - $C_4$  alkyl, haloalkyl, or phenyl, optionally substituted with halo, nitro, or  $R_4$ ; or an agronomic salt thereof.

151. (previously presented) The method according to claim 103, wherein the fungicide comprises a compound having the formula:

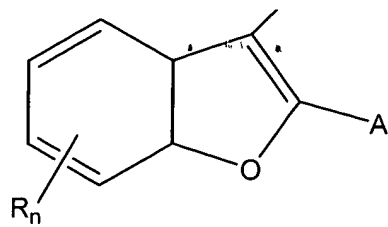


(a)

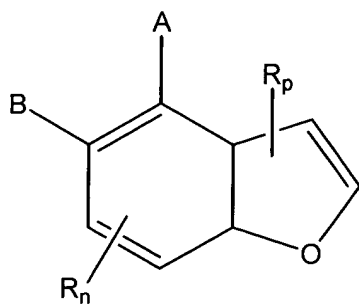


(b)

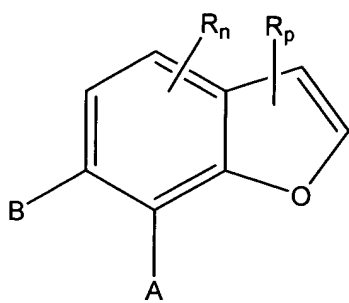




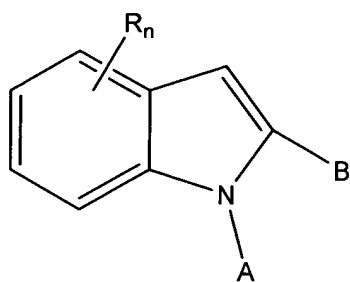
(c)



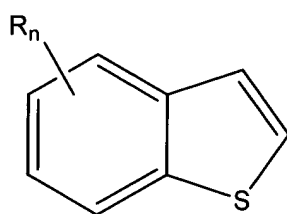
(d)



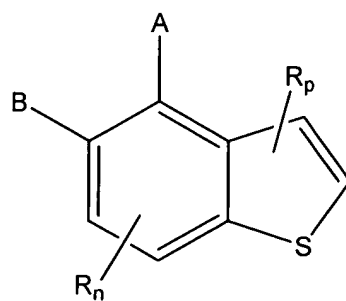
(e)



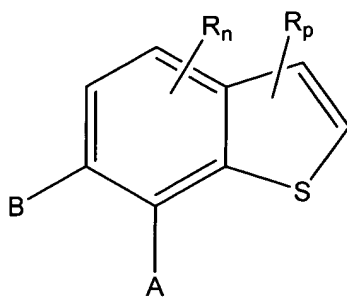
(f)



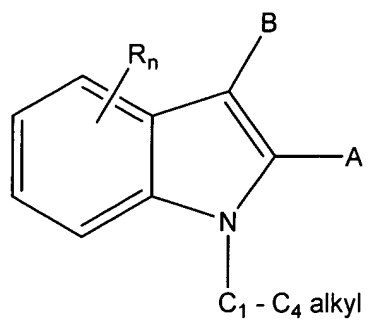
(g)



(h)



(i)



(j)

where A is --C(X)-amine; B is  $-W_m-Q(R_2)_3$ ; and A can be B when B is A except when the formula is f), then Q cannot be Si;

Q is C or Si;

W is --NH--, --O-- or NCH<sub>3</sub> --;

X is O or S;

m is 0 or 1, provided that m is 0 when Q is Si;

n is 0, 1, 2, or 3;

p is 0, 1 or 2, and n plus p is equal to or less than 3;

each R is independently selected from

a) halo, formyl, cyano, amino, nitro, thiocyanato, isothiocyanato, trimethylsilyl, and hydroxy;

b) C<sub>1</sub> –C<sub>4</sub> alkyl, alkenyl, alkynyl, C<sub>3</sub> –C<sub>6</sub> cycloalkyl, and cycloalkenyl, each optionally substituted with halo, hydroxy, thio, amino, nitro, cyano, formyl, phenyl, C<sub>1</sub> –C<sub>4</sub> alkoxy, alkylcarbonyl, alkylthio, alkylamino, dialkylamino, alkoxycarbonyl, (alkylthio)carbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylsulfinyl, or alkylsulfonyl;

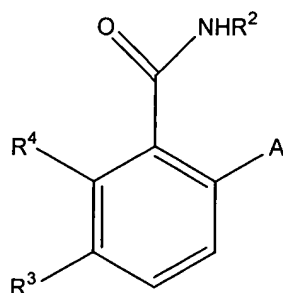
c) phenyl, furyl, thienyl, pyrrolyl, each optionally substituted with halo, formyl, cyano, amino, nitro, C<sub>1</sub> –C<sub>4</sub> alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylamino, dialkylamino, haloalkyl, and haloalkenyl;

d) C<sub>1</sub> –C<sub>4</sub> alkoxy, alkenoxy, alkynoxy, C<sub>3</sub> –C<sub>6</sub> cycloalkyloxy, cycloalkenyloxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, dialkylamino, alkylcarbonylamino, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonyl, alkylcarbonyloxy, alkoxycarbonyl, (alkylthio)carbonyl, phenylcarbonylamino, phenylamino, each optionally substituted with halo; each R<sub>2</sub> is independently selected from alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl and phenyl, each optionally substituted with R<sub>4</sub> or halogen; and wherein, when Q is C, R<sub>2</sub> may also be selected from halo, alkoxy, alkylthio, alkylamino, and dialkylamino; wherein two R<sub>2</sub> groups may be

combined to form a cyclo group with Q;  $R_4$  is  $C_1 - C_4$  alkyl, haloalkyl, alkoxy, alkylthio, alkylamino, or dialkylamino;

or an agronomic salt thereof.

152. (previously presented) The method according to claim 103, wherein the fungicide comprises a compound having the formula:



wherein  $R^2$  is ethyl, iso-propyl, propyl or allyl;

A is  $N(CH_3)_{1-n} H_n R^5$  or  $OR^6$  wherein n is 0 or 1,  $R^5$  is  $(CH_3)_m (CH_3 CH_2)_{3-m} C$ , 1-methyl-1-cyclopentyl, 1-methyl-1-cyclohexyl or 2,3-dimethyl-2-butyl wherein m is 0, 1, 2 or 3 and  $R^6$  is independently  $R^5$ , or 2,3,3-trimethyl-2-butyl;

$R^3$  is H or independently  $R^4$ ; and

$R^4$  is halo or  $CH_3$ ;

with the proviso that when A is  $N(CH_3)_{1-n} H_n R^5$ , if  $R^3$  is H and  $R^5$  is 1-methyl-1-cyclohexyl or  $(CH_3)_m (CH_2 CH_3)_{3-m} C$ , where m is 0 or 3, or if  $R^3$  is halo and  $R^2$  is  $(CH_3)_m (CH_3 CH_2)_{3-m} C$ , where m is 3, then  $R^2$  cannot be ethyl;

and with the proviso that when A is  $OR^6$  then m is equal to or less than 2, and if  $R^3$  is H or halo and  $R^2$  is ethyl or isopropyl, then  $R^6$  is  $(CH_3)_M (CH_3 CH_2)_{3-M} C$  where m is 1;

or an agronomic salt thereof.

153. (previously presented) The method according to claim 103, wherein the agronomic plant is selected from the group consisting of corn, cereals, barley, rye, rice, vegetables, clovers, legumes, beans, peas, alfalfa, sugar cane, sugar beets, tobacco, cotton, rapeseed (canola), sunflower, safflower, and sorghum.

154. (previously presented) The method according to claim 103, wherein the agronomic plant is selected from the group consisting of *Pisum spp.*, *Medicago spp.*, *Arachis spp.*, *Glycine spp.*, *Vicia spp.*, *Vigna spp.*, trefoil, clovers and *Phaseolus spp.*

155. (previously presented) The method according to claim 103, wherein the agronomic plant is a soybean plant.

156. (previously presented) The method according to claim 103, wherein the treatment comprises treatment of a seed, wherein the seed is treated with an amount of the composition sufficient to include the fungicide in an amount that is within the range of about 0.1 gm/100 kg of seed to about 500 gm/100 kg of seed.

157. (previously presented) The method according to claim 156, wherein the seed is treated with an amount of the composition sufficient to include the fungicide in an amount that is within the range of about 10 gm/100 kg of seed to about 100 gm/100 kg of seed.

158. (previously presented) The method according to claim 156, wherein the seed is treated with an amount of the composition sufficient to include the fungicide in an amount that is within the range of about 20 gm/100 kg of seed to about 50 gm/100 kg of seed.